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1.3.6 EXECUTION

1.3.6.1 Having finalized the passage plan, and as soon as estimated times of arrival can be made with reasonable accuracy, the tactics to be used in the execution of the plan should be decided. The factors to be taken into account will include :

1. The reliability and condition of the ship's navigational equipment,
2. Estimated times of arrival at critical points, tide heights and flow,
3. Meteorological conditions, particularly in areas known to be affected by frequent periods of restricted visibility,
4. Day-time versus night-time passing of danger point and effect this may have upon position fix accuracy,
5. Traffic conditions, especially at night.

1.3.6.2 It will be important for the Master to consider whether any particular circumstance, such as the forecasted restricted visibility in an area, where position fixing by visual means at a critical point is an essential feature of the navigation plan, introduces unacceptable hazard to the safe conduct of the passage and thus, whether that section of the passage should be attempted under the conditions prevailing, or not.

He should also consider at which specific points of the passage he may need to utilize additional deck or engine room personnel.

1.3.7 MONITORING

1.3.7.1 The close and continuous monitoring of the ship's progress along the pre-planned track is essential for the safe conduct of the passage. If the Officer on the watch is ever in any doubt as to the position of the ship or the manner in which the passage is proceeding, he should immediately call the Master and, if necessary, take whatever action he may think necessary for the safety of the ship.

1.3.7.2 The performance of navigational equipment should be checked prior to sailing, prior to entering restricted or hazardous waters and at regular and frequent intervals at other times throughout the passage.

1.3.7.3 Advantage should be taken of all the navigational equipment with which the ship is fitted for position monitoring, bearing in mind the following points :

1. Visual bearings are usually the most accurate means of position fixing,
2. Every fix should, if possible, be based on at least three position lines,
3. Transit marks, clearing bearings, parallel indexing and clearing ranges (radar) can be of great assistance,
4. When cross-checking, use systems which are based on different data,
5. Positions obtained by navigational aids should be checked where practicable by visual means,

6. The value of the echo sounder as a navigational aid should not be overlooked,

7. Buoys should not be used for fixing but may be used for guidance when shore marks are difficult to distinguish visually. In such circumstances, the position of the buoy should first be ascertained by other independent means,

8. The functioning and correct reading of the instruments used should be checked,

9. Decision in advance, as to the frequency with which the position is to be fixed, should be made for each section of the passage.

1.3.7.4 Methods of Position-fixing : During deep sea voyages, GPS, if fitted, is the most favoured means of obtaining the vessel's position. However, regular and frequent checks using astronomical observations must be carried out also. A record of such observations must be maintained in a "Sight Register".

During coastal passages or when approaching / departing from ports, position fixing must be carried out using at least two independent means. Vessel's position can be obtained using any or combination of the following means :

1. Visual compass bearings

2. Line of soundings using the echo sounder

3. Radar bearings

4. Radar ranges

5. Electronic aids to navigation e.g. Loran, Decca, etc.

6. GPS Navigator

7. Transit bearings